



Volunteer Lake Assessment Program Individual Lake Reports

WILSON POND, SWANZEY, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,022	Max. Depth (m):	4.6	Flushing Rate (yr ⁻¹)	3.5	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	80	Mean Depth (m):	1.7	P Retention Coef:	0.63	1977	MESOTROPHIC	
Shore Length (m):	2,100	Volume (m ³):	539,500	Elevation (ft):	476	1993	MESOTROPHIC	

TROPHIC CLASSIFICATION

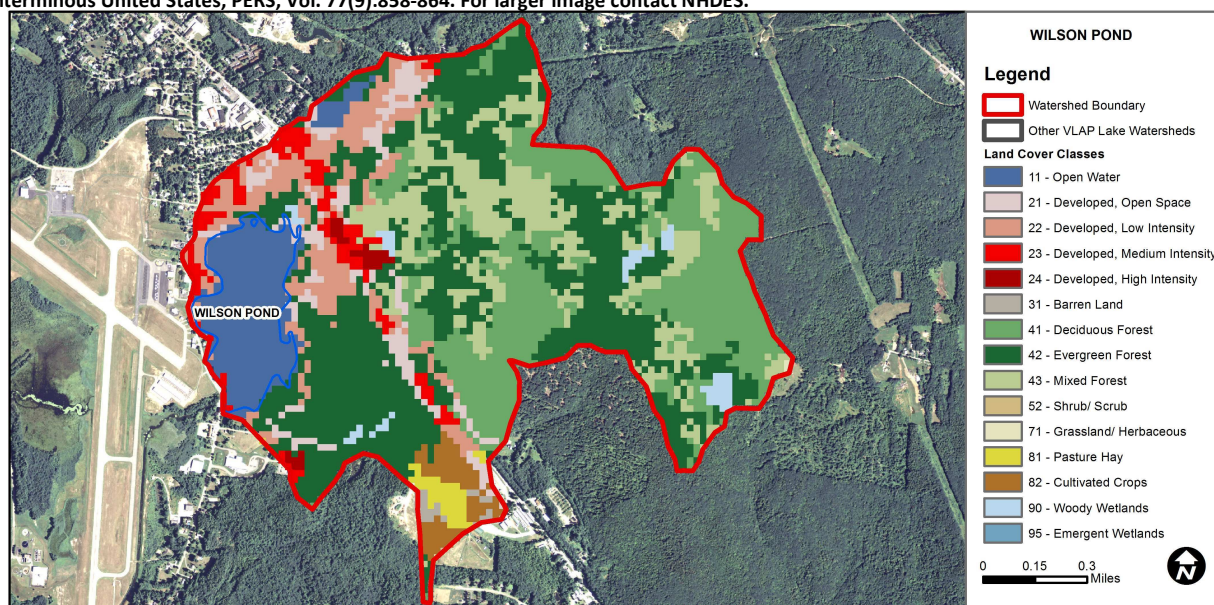
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Cautionary	<5 samples and median is > threshold. More data needed.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Encouraging	>2 samples exist that are > 75% of geometric mean criteria, but not enough samples to calculate geometric mean. No single sample exceedances. More data needed.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	8.78	Barren Land	0.51	Grassland/Herbaceous	0.05
Developed-Open Space	4.69	Deciduous Forest	21.1	Pasture Hay	1.09
Developed-Low Intensity	8.2	Evergreen Forest	33.88	Cultivated Crops	2.14
Developed-Medium Intensity	3.58	Mixed Forest	13.8	Woody Wetlands	1.46
Developed-High Intensity	0.7	Shrub-Scrub	0	Emergent Wetlands	0



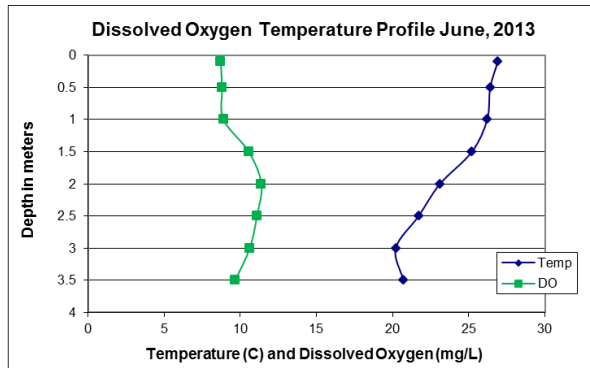
VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

WILSON POND, SWANZEY, NH

2013 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- CHLOROPHYLL-A:** Chlorophyll levels were relatively low on each sampling event and average levels were less than the state median.
- CONDUCTIVITY/CHLORIDE:** Deep spot and tributary conductivity and chloride levels were slightly elevated and likely due to road salting from winter maintenance activities. Visual inspection of historical data indicates epilimnetic conductivity is increasing.
- E. COLI:** Inlet North E. coli levels were elevated in July after significant rain event, however did not exceed state standard for surface waters. Inlet and Outlet E. coli levels were well below state standard for surface waters.
- TOTAL PHOSPHORUS:** Epilimnetic phosphorus was elevated in July following a significant rain event. Inlet phosphorus was elevated in June and the turbidity was also elevated and field data indicate stagnant water conditions.
- TRANSPARENCY:** Transparency improved as the summer progressed and viewscope transparency was approximately equal to the state median.
- TURBIDITY:** Outlet turbidity was elevated in June following significant rain event. Epilimnetic and inlet turbidity were elevated in July following significant rain event. Inlet turbidity was elevated in June likely due to stagnant conditions.
- pH:** Deep spot and tributary pH levels were sufficient to support aquatic life.
- DISSOLVED OXYGEN:** Dissolved oxygen level were high and sufficient to support aquatic life.
- RECOMMENDED ACTIONS:** Stormwater runoff from significant rain events in June and July caused elevated phosphorus and turbidity at many stations. The increased frequency and intensity of storm events highlights the need to reduce stormwater runoff and educate lake and watershed residents on ways to reduce stormwater runoff from their properties. DES' "Homeowner's Guide to Stormwater Management" is a great resource. The elevated and increasing conductivity levels indicate impacts from road salting activities. Encourage local road agents to obtain a Voluntary NH Salt Applicator license through the UNH Technology Transfer Center's (T2) Green SnowPro Certification Program. Keep up the great work!



NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

Station Name	Alk.	Chlor-a	Chloride	Cond.	E. Coli	Total P	Trans.		Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	#/100ml	ug/l	NVS	VS	ntu	
Epilimnion	7.67	3.72	21	101.4		16	2.88	3.27	1.14	6.95
Hypolimnion				99.5		12			1.27	7.33
Inlet			18	100.5	10	32			1.22	6.72
Inlet North					190					
Outlet			19	101.4	37	11			1.19	6.86

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	N/A	Ten consecutive years of data necessary.	Chlorophyll-a	N/A	Ten consecutive years of data necessary.
Conductivity	N/A	Ten consecutive years of data necessary.	Transparency	N/A	Ten consecutive years of data necessary.
			Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary.

